

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 March 2005 (03.03.2005)

PCT

(10) International Publication Number  
**WO 2005/020174 A1**

(51) International Patent Classification<sup>7</sup>: **G08B 17/10**

(21) International Application Number:  
PCT/AU2004/001091

(22) International Filing Date: 16 August 2004 (16.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2003904456 20 August 2003 (20.08.2003) AU

(71) Applicant (for all designated States except US): **CLIP-SAL AUSTRALIA PTY LTD** [AU/AU]; 12 Park Terrace, Bowden, S.A. 5007 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **COOK, Quentin, David** [AU/AU]; 256 Napier Street, Strathmore, VIC 3041

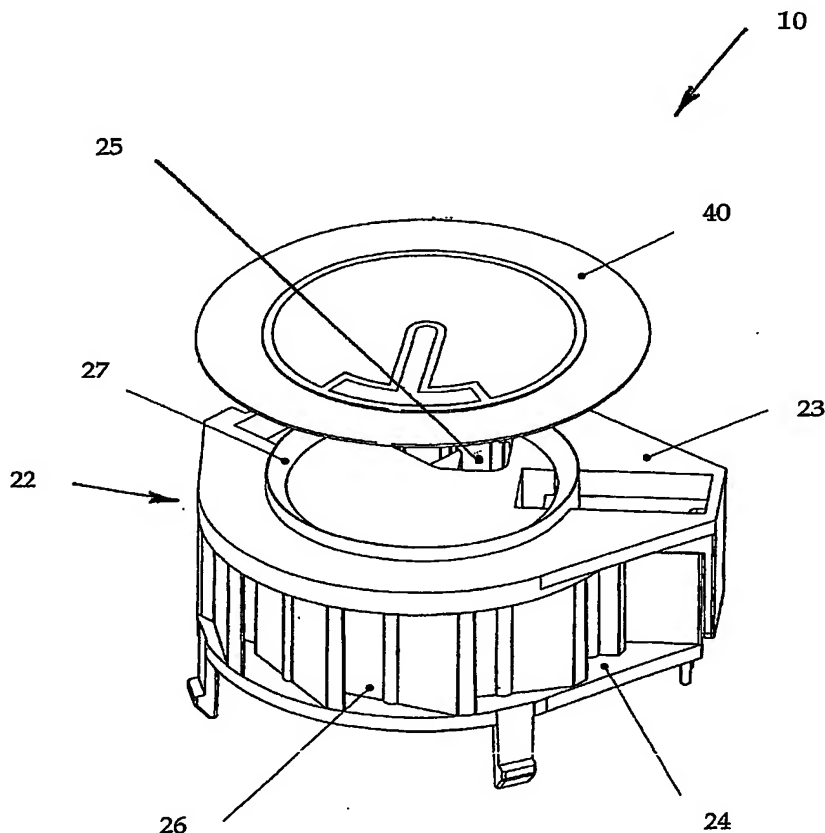
(AU). **DAVIES, Paul, Edward** [AU/AU]; 9 Trefoil Street, Fern Tree Gully, VIC 3156 (AU). **KELLY, Neale, Terrens** [AU/AU]; 3 Fiona Court, Mooroolbark, VIC 3138 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: A COMPACT SMOKE ALARM



(57) Abstract: A compact smoke alarm assembly (10) is disclosed. The assembly (10) comprises: a smoke detection chamber (20) defined by a body (22) having a plurality of openings for allowing airflow therethrough, the body (22) having a sound inlet aperture (25); a smoke detector (30) mounted to the body for communication within the chamber (20); an electrical circuit operatively connected to the smoke detector (30), the circuit providing an electrical signal when the smoke detector (30) detects smoke in the chamber (20); and a piezoelectric disc (40) mounted external to the chamber adjacent to the sound inlet aperture, the piezo disc (40) operable in response to the electrical signal to generate sound. The smoke detection chamber (20) is sized substantially in accordance to the Helmholtz formula to cause resonance at the operating frequency of the piezo disc (40).

WO 2005/020174 A1

BEST AVAILABLE COPY



FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— with international search report